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PUBLIC MEETING MINUTES REGARDING ACTION PLAN SITE 69 OPERABLE UNIT 14 (OU14) MCB CAMP LEJEUNE NC

8/16/2012

CAROLINA COURT REPORTERS

PUBLIC MEETING

PROPOSED REMEDIAL ACTION PLAN
SITE 69, OPERABLE UNIT NO. 14
MARINE CORPS INSTALLATIONS EAST BASE
CAMP LEJEUNE, NORTH CAROLINA

AUGUST 16, 2012
COASTAL CAROLINA COMMUNITY COLLEGE
444 WESTERN BOULEVARD
JACKSONVILLE, NORTH CAROLINA 28546

* *

MEETING MODERATOR - MS. CHARITY RYCHAK
DOI CO-CHAIR
MCB CAMP LEJEUNE EMD/EQB
BUILDING 12, MCHUGH BOULEVARD
CAMP LEJEUNE, NORTH CAROLINA
28542-0004

PRESENTER - MR. CHRIS BOZZINI, CH2MHILL

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LIST OF ATTACHMENTS

ATTACHMENT [1] PROPOSED REMEDIAL ACTION PLAN PRESENTATION

COURT REPORTER'S NOTE: The public meeting convened at 6:02 P.M. at Coastal Carolina Community College, Jacksonville, North Carolina on Thursday August 16, 2012.

MS. CHARITY RYCHAK: We've got actually quite a few presentations tonight, but tonight we're going to start with a public meeting. And we've got two public meetings we're doing, and then, we'll roll into some additional stuff and then general RAB information, including talking about our site tour for the next meeting so, okay. As always with public meetings, if you ask any questions or make any comments, please, state your name beforehand so the court reporter can record that in the minutes. And, without further ado, I'll turn it over to Matt with--

MR. MATT LOUTH: Chris.

MS. CHARITY RYCHAK: -- or Chris.

MR. CHRIS BOZZINI: The hardships I put up with. Okay are we all set over here; okay. Do we have a clicker?

MR. MATT LOUTH: No, I can click it for you.

MR. CHRIS BOZZINI: All right.

MR. MATT LOUTH: Just give me a signal.

MR. CHRIS BOZZINI: Our first discussion for the public meeting is site 69 on operable unit 14, the proposed remedial action plan. So, over here, the thicker copy is the -- what we call the PRAP, remedial action plan, so feel free

to grab that on the way in or way out. Next.

So our objective for this discussion is to present the components of the plan. The plan identifies our remedial action objectives, the alternatives we looked at, and progressing the way soil ground water out there. It identifies a preferred alternative and the rational for that selection, and it answers questions and it's part of the feedback, or seeking feedback from the community and the public outreach and so forth. Next.

So Site 69 is in the western side of the New River; it's the former rifle range site, so right now, its backstop has been built up all around it so it's pretty much still pretty isolated however. Next.

So, as I said, it's site 69 rifle range chemical dump; it's 14 acres in size; there was active disposal of solvents, pesticides, PCBs from the '50s through '76. There's a report of chemical agent being disposed there, so that's kind of the whole monkey wrench to this site. That really makes it from a challenging site to very challenging complex issues. Well, investigations began in the '80s; there was interim record of decision put in place in 2000. And then site 69 is this portion here; the larger portion is UXO2 and we investigated these two sites in parallel. And so UXO2 is the surrounding under 127 acres. There was really no record of what munitions were used out there. The area was

used for troop training activities, and so, as I said, on a parallel track we investigated the larger UXO area, and the results of that investigation was no further action. Next.

So here is our time line for site 69 -- so back in '81 the site was investigated. There was some initial sampling in the early '80s, some additional sampling -- excuse me -- investigation in the early '90s. One of the key components here is, in '92 there is a geophysical survey where they identified buried material. So we know that there's buried material out there, and if you were to walk the site, it -- you see depressions out there; it's obvious that someone did something out there. Remedial investigation in the early -- mid '90s, some treatability work. There was a ROD placed out there in 2000. Then the site was reinvestigated so we get an official final ROD moved beyond the interim ROD, FS, and now, to where we are today.

So our risk summary is -- these are the media we look at and we look at the human health risk and ecological risk. And, really, the summary to it is there's an unacceptable risk with the exposure to what waste or soil is disposed out there. There's an unacceptable risk to future residents from the ground water and there's a potential vapor intrusion risk if you ever decided to build on that site. Next.

So here are our contaminants of concern, so it's a bit of a mix of what we see out there. So we have our

volatile organic compounds, which are typical solvents that -- many of you have been to these meetings and we talk about a lot of the same solvents every time. There's also pesticides and PCBs out there above risk levels and also some metals. What you can kind of see here is the ground water plumes of what is above a regulatory standard. And it's a little deceiving because these couple wells out here are actually very slightly above for one compound and it's actually less than a part per billion level in those wells, but the regulatory limit is less than -- it's like .15, so it's kind of a catch 22 you get locked into. I don't know how well you can see it; this yellow outline represents the area of waste disposal, so that's about 5 acres in size. This yellow or gold line is static boundary and it's actually a fence. So it does prevent anyone from going on site and any kind of accidentally going on site or potentially going on site. So next.

When we look at these sites, we like to put together a conceptual site model, which is basically looking at where our contamination comes from and what's its transport. So what the model we've developed here is, we have these disposal areas where material has leached into the ground water to the soil, and is moving slowly with the ground water flow towards the river. This site's not developed, so we don't have any receptors at the moment. And so this is kind

of how we see a conceptual picture of what the site looks like, with the surface geology and so forth. Next.

So, as part of our evaluation, we developed these remedial action objectives, so these are our goals for remediating, cleaning up the sites. Restore the ground water quality to meet the state and federal drinking water standards. Minimize any exposure to potential chemical agent that may be there, if it's there. To the best extent practical, reduce infiltration and leaching of contaminants from the waste into the ground water to the best extent possible. Prevent exposure to any buried material that's out there and associated soil ground water. And minimize the potential for degradation of the New River. Here is our, as I said earlier, our contaminants that represent a risk with the associated ground water clean up levels. So, for example, what I was talking about earlier is this vinyl chloride is what we have in those two wells and it's at numbers of, you know, .4, so, unfortunately, we trigger the standard, but it's a very, very low number. So these are our ultimate goals; when we reach these numbers for all our monitoring points, the site will be considered clean. Next.

As we look to clean up the site and what alternatives we are gonna do, we broke the site into two components; one is looking at this waste disposal area. So we developed several alternatives: no action was the base line, land use

controls, capping with land use controls, or digging it up and disposing of it off site. For ground water, we developed five alternatives: no action; monitored natural attenuation, which is basically monitoring the natural process degrade the contaminants; putting in a permeable reactive barrier, which is basically constructing a wall which intercepts the ground water flow and, as the ground water runs through the wall, it's treated; doing injections out there to enhance the natural degradation, or doing injections of an oxidant, which is basically chemicals that break up the compounds. Next.

So, for our waste disposal area, a little more in detail is our land use controls are just to prevent exposure to the waste and associated soil, so that would be restrictions on any activities out there, fencing, maintaining those restrictions and fencing. The next level of protection, the next alternative is using the same land use controls but then you cap it. For all intents and purposes, this is a land fill, so the idea would be putting a multi-layer cap to contain any material in there and prevent any rain water infiltration from going through the contaminated soils and also to prevent any kind of direct exposure to anybody that may be out there, animals or etc. And then, lastly, would be digging it all up, dig up the 5 acres to 20 feet and just see what's out there. So what we do as part of our feasibility study is we evaluate these

approaches, and we have the guidance circle that the EPA has developed. And, I'm not gonna go through these things in detail but it's basically looking at, is the alternative protective to human health and environment; do we comply with the laws and regulations, you know, how effective is this in the long term. How well do we treat the contaminants, how protective of it is in the short term of while you're doing the construction and so forth. How easy is it to implement and then, naturally, cost. So it's a pretty broad range, the land use controls are pretty straight forward, pretty easy to do. The capping adds another good layer of protectiveness, and then the removal would be protective however, there's some real technical challenges, with one of them being if it actually had chemical waste down there, it would be a big question mark of what we could even do with it.

So, as you can see, we have highlighted capping and land use controls because that is the team's preferred alternative. So the rational is the capping and land use controls prevent potential exposure to any buried material out there and associated soil. It reduces the infiltration of water and rain and so forth through the waste. It's regulatory accepted for landfills under the circle program to do capping. In kind of what I just touched on, there is a significant risk, if we actually went to try to dig this stuff up, of handling it -- of what we could even do with it.

So the concept is, over this 5-acre area, building a multi-layer cap that meets all the regulatory requirements, we're isolating the waste material up there. You do periodic inspections, mowing maintenance, etc. Next.

And this is just kind of the design so you kind of get a feel of what this cap material is. So this is the bare ground as it is today, and the design calls for placing two feet of soil out there just to kind of stabilize the site so we can build a cap on it. Then you put a layer of sand some geotextile for stability, basically a layer of plastic to prevent any kind of infiltration, another layer of material, then some topsoil, seed it and you just slope it to get your water to run away from the site. So, like I said, this is pretty much state of the art, meets all of the requirements of the EPA and the state, and, like I said, the whole point of it is to prevent any access to it, prevent any precipitation water getting into it. Next.

So for our ground water alternatives, we're looking at no action, monitoring natural attenuation, with land use controls, a permeable reactive barrier. So the MNA is basically looking at the natural processes, how it goes over time. The land use controls would be to prevent the use of the water, prevent construction out there. Reactive wall was the idea of placing zero valent iron to intercept the contaminated ground water flow and that iron treats the

solvents as it passes through, monitoring and, once again, using the same land use controls. The fourth alternative we looked at is injecting some natural materials to promote the natural degradation. We've talked about this, also; basically, it's an organic matter you inject and the natural bugs break down the chemicals and so forth -- combining that with the monitoring and land use controls. And the last alternative was chemical oxidation, which is to inject a chemical which breaks up the chemical, the solvents.

So, when we look at all these alternatives, the team felt that MNA and long term monitoring was the best, once again. It's kind of a combination where the river -- our modeling shows or suggests that we're not gonna reach the river. The cap is really gonna prevent a lot of the ground water -- it's gonna really slow the ground water flow down. There is evidence that the chemicals themselves are breaking down out there. And there's also evidence that, you know, this site's been around for some 50-60 years now, and it relatively hasn't moved very far. So it's, basically, just kind of, we feel that the natural processes are kind of breaking it down slowly, but it's still working out there. So next.

So there's the rational is, the natural degradation will continue, we have favorable conditions, we have the right bacteria out there. It's very straight forward; we're

doing this on other sites at the base. Right now our studies plan for 30 years and there will be the land use controls in place that will prevent use of the ground water and so forth. Next.

So, once again, kind of in summary, so when we look at the site as a whole, we're gonna combine capping of the waste material, land use controls, which is maintaining the fencing and preventing the use of the ground water, preventing the access to the site, and monitored natural attenuation or monitoring the extent -- the quality of the ground water of the site. So, as part of the circle process, community participation is an important part. You guys play a key role here so you do have a say in the process. The public comment period begins today and it lasts for 30 days. The comments should be post marked no later than September 16th. Responses to any comments will be prepared, will be included in the record of decision, the administrative record. And today serves as the public meeting for the site. The information, as we said, for the couple of late comers, we've got the PRAP up here. I think Charity just handed that out. The library does have the documents, the administrative record; also, has the documents of remedial investigation, feasibility study, so forth. So they're readily accessible for the public.

Our points of contact, Dave Cleland, who's right here

with the Navy; Charity with the Base; Gena Townsend is in the last row with the EPA; and Randy with the State is right over there. So your comments can be submitted to any of those individuals and so their addresses, email and so forth are here and they are also included in the PRAP, as well. So our path forward is the Navy and the Base working with the EPA Diener will make the final decision on site 69 remedial approach, after reviewing any kind of input from the public. There will be a record of decision prepared that will detail the selected remedy, the response, in a summary and there will be a pubic notification after it has been signed. And, basically, the Navy, the Base, the EPA and the State all sign off on the record of decision.

So that concludes site 69; does anybody have any questions.

MR. MIKE CURTIS: How long does a cap remain in place?

MR. CHRIS BOZZINI: Caps -- there's a maintenance component, but they should last indefinitely. You know, most of your landfills, if they're not active any more, they have all been capped. And so, you have monthly maintenance; you mow it; if there's any kind of like, drainage issues or whatever, it will be repaired. So, like I said, they're pretty hardy -- pretty standard technology.

MR. RICHARD MULLINS: Community member. I think

you've answered this already, but I gather there's no pressure from the range for developing this area?

MS. CHARITY RYCHAK: They've talked to me about moving into that area, but we basically say that this is off limits, unless you've got beaucoup money, and then they back away. So, so far, they are staying away from it. If anybody has enough money, please, we'll take it and clean it up; that would be great, you know.

MR. MIKE CURTIS: And I have a curiosity question, understanding what's the problem involved, we're trying to dig up 20 feet deep for 5 acres to see what's there. Do you ever do, or has anyone ever done borings -- like they do for sampling in the Arctic and Antarctic for getting the ice samples, does -- is -- has that ever been done? I'm just curious, or is it even worthwhile trying it, something like that?

MR. CHRIS BOZZINI: There have been several borings through the waste material, and so, that's where we see the highest concentrations. The issue isn't digging a hole that big; the issue is if it was really agent or something like that, we just don't have any place to send it. And so, that's the challenge. It's not like I can call a hazardous waste broker and they'll come pick it up; I mean, they just won't touch it.

MR. DAVE CLELAND: And, recently, DOD appointed the

Army Corps of Engineers as the lead for CWM sites. So this site's on their list, so however they decide to prioritize, it's eventually gonna be addressed. Even for these guys to get out there and collect their samples, I had to get in touch with the Corps of Engineers and get all kinds of plans approved, and I asked them while I was there what kind of cost it would take for them to come out and make this go away, and I got a 40 million dollar price tag.

MR. MIKE CURTIS: Because, I know you used to have the wells sunk all over the place for ground water and stuff, and I was just wondering if they did any borings, just to try to figure out?

MR. CHRIS BOZZINI: There have been some borings there. And, like I said, the logistics, the technical, it would be a tremendous challenge of one we have never seen on this program.

MR. MIKE CURTIS: Well, the other thing, too, is if somebody dumped a drum of some kind of agent out there, you know the chances of hitting it are pretty small, too.

MR. CHRIS BOZZINI: They are, but the consequences are high; that's the rub. You know plane crashes don't happen often, but you don't want to be in one. So it's that mentality and that's kind of the scary part of it all, so, when we did the investigation a couple of years ago, you know, we had the guys down from Aberdeen, ECBC -- I forget

what that stands for --

MR. MIKE CURTIS: Edgewood Biological Community

MR. CHRIS BOZZINI: So these guys came down; they had their mobile labs; they were screening every sample. They had to take the samples back up to Maryland to like run their tests before we could run our tests. So, it's just hard.

MR. DAVE CLELAND: These guys are out there in supplied air, level B, if you are familiar with that. So it was -- had a couple of false alarms, the air monitoring systems were going off, kind of scary.

MR. MIKE CURTIS: One other question for you, Mike Curtis, from the community. Has anybody taken a look at the chemicals out there to make sure there can't be any chemical reaction between the contaminants?

MR. CHRIS BOZZINI: When we did the investigation, we sampled the wells. There was no agent in the wells; it was the regular, the typical solvents that we see at many of the sites at Lejeune. So that's why ECBC was brought in to test for that, so that's a good thing, and that's kind of part of the monitoring plan. Periodically, they will monitor and screen the ground water samples as part of the remedy. So if -- if there was something there and if it got released to the environment, you know, we still have a way to determine that through the monitoring program. Okay, all right that's site 69.

MS. CHARITY RYCHAK: We have one more public presentation. Chris, are you doing that one, too?

MR. CHRIS BOZZINI: Yeah, I was gonna do this one and then Matt's got the rest.

MS. CHARITY RYCHAK: Okay.

MR. CHRIS BOZZINI: Okay, the next site we're gonna talk about is UXO14, which is a former indoor pistol range, and this project is an engineering evaluation cost analysis. It's a little different; it's still within the circle program, but the idea is it's kind of an off-ramp to be able to address sites faster and easier. Next.

So, what we'll do today, is we'll discuss the site background, we'll look at the removal action objectives, what alternatives will be looked at, present a recommended alternative, community participation, we'll discuss and review the path forward and the schedule. So this site is located in the Stones Bay area; it was a former indoor pistol range that was operated from 1950 to 1996. And the building was demolished in 1996. The whole area is .2 acres, so it's pretty small, relatively speaking. In the last couple years we've been going, doing the investigation you can see just some basic screening and a little more thorough in depth sampling. And we're at the point where we have this report to the EECA that outline the alternatives. Next.

So, as part of our investigations, and you kind of

see, not the best picture, maybe, we did a preliminary assessment site inspection. And we went out there and we sampled the ground water, surface soil, subsurface soil. We looked at the results of that sampling to evaluate if there's any kind of human health or ecological risk from the soil, and in this initial screening, we had antimony, mercury and lead fall out. So what we did is, we did some, recommended some additional sampling. And when I talk about sampling in the PASI, it's truly only a handful of samples. It's -- the idea is, is there something out there, if we find something, then we go to our expanded site investigation, which is more sampling to help define, delineate, gather more data. So we did the additional soil sampling for metals and we were able, using the whole data set, the risk fell out to be antimony and lead. And so the recommendation to the team was let's do something about the soil contamination. It is in the surface soil; it's in the top foot. When you look below that, there was no risk and there was no risk in the ground water. So this is purely focused on soil.

Okay, so you can see this is our -- the yellow is the site, and you can see all the soil samples and to kind of give you an idea, this box is only 100 feet by 40 feet, so it's really not that big. And so, you can see what we've done is define a couple of layers of concentrations, iso contours, so you're looking at an area that is probably

around the order of 50 by 40 some 200 square feet -- not that large. Next.

This is the lead results using the same sampling and, once again, you know, the higher hits are over on that portion of the site, had a high hit there. So, once again, here's our conceptual site model. You've got a site here with some soil contamination, so you could have potential exposure by construction workers or workers on the site, residents, etc. So, our goal here is to eliminate any potential risk. Next.

So, as I said, we do what's called an EECA, engineering evaluation cost analysis, and we come up with our removal action objectives, which is to prevent exposure to surface soils from the metals exceeding the clean-up levels, and to reduce the potential for the antimony and lead to migrate from the surface soil to subsurface or ground water. We did a risk assessment for the site and developed those clean-up levels for lead and antimony. Next.

So when we plot up our risk clean-up numbers to the data, we get these two boxes and this larger area is about 85 by 70 feet, and then this smaller area is about 35 by 35 feet. So, probably, the size of this class room and a couple of the classrooms. So we looked at no action, just leaving it in place, digging it up, sending it off site for disposal, or stabilizing it and then digging it up and then sending it

for off-site disposal. So the alternative two is a straight dig it up, send it off site; it's about 260 cubic yards. We would do confirmatory sampling of the side walls and the bottom wall. From our history of working at range -- shooting ranges here at the Base, the soil will most likely be a hazardous waste and so the cost of disposing of a hazardous waste is pretty expensive, and so that factors in to really why we have two alternatives. So we would dig it up and send it off as hazardous waste, back fill, regrade it, you know, move on. The next alternative is we add a step of stabilizing -- there's certain chemicals out there that we can mix into the top one foot, which, basically, bind up the lead and antimony, and so, once you bind that up, the soil's not hazardous any longer. You dig it up, you can dispose of it off site as a non-hazardous waste. You do your confirmatory sampling, back fill, and once again, you're good to go.

So, for both, the approaches are very similar and, really, it's just that one step of -- in a sense, you're either gonna pay somebody to take hazardous waste or you're gonna add this step of mixing this stuff in to save your self, you know, 90,000 dollars, about a third of the project cost. So they're both protective, they both would remove the soil from the base, they are pretty straight forward, pretty straight, you know, not a whole lot of risky work going on,

so it almost comes down to a cost decision at this point. So the recommended alternative is doing the stabilization and digging it up. We're actually doing this on two other sites on the Base; there's UXO1 and the former skeet range. So it's the same process, it's the same chemical that they are adding, so we, the team, has a lot of experience in dealing with this stuff; it's protective to human health and the environment. It removes the source off the Base; it's effective in the long term. The treatment is involved to render the soil nonhazardous. Pretty standard construction practices, falls within the regulatory guidelines, easy, and it's a more cost efficient way of doing it.

Similar to the last discussion, community participation; this is the public meeting. There is a public comment period for 30 days starting today. Comments need to be in by September 16th. Significant comments will be included with the responsive comments and will be included with the administrative record, and this serves as the public meeting. So, once again, the EECA is on the disk, I believe, so if you're interested, you can take that disc; it's also online and it's also in hard copy at the library. Same points of contact that we discussed before, Dave, Gena, Randy, Charity. Oh -- excuse me -- Marty Morgan is, I guess, our State contact for this one. I think it's going to be very similar information to Randy. So, once again, any kind

of comments would go to one of those four individuals. Our path forward is the public comment period for the next 30 days. This is the public meeting; there will be a final action memo in November 2012. Our action memo is our decision document that basically defines the process and a formal decision. And then the removal action would be 2013, at some point, probably, early in the year, the first half of the year. That's it, any questions. This is a straight forward one, to be honest.

MS. CHARITY RYCHAK: Well, that concludes the public meeting of this.

* * * * * THE PUBLIC MEETING CONCLUDED AT 6:40 P.M. * * * * *

SITE 69 PRAP PUBLIC MEETING

STATE OF NORTH CAROLINA)

) C-E-R-T-I-F-I-C-A-T-I-O-N

COUNTY OF PITT)

I, XAVIER N. BLOUNT, A COURT REPORTER AND NOTARY PUBLIC IN AND FOR THE AFORESAID COUNTY AND STATE, DO HEREBY CERTIFY THAT THE FOREGOING PAGES ARE AN ACCURATE TRANSCRIPT OF THE PUBLIC MEETING IN JACKSONVILLE, NORTH CAROLINA, WHICH WAS TAKEN BY ME BY STENOMASK, AND TRANSCRIBED BY ME.

I FURTHER CERTIFY THAT I AM NOT FINANCIALLY INTERESTED IN THE OUTCOME OF THIS ACTION, A RELATIVE, EMPLOYEE, ATTORNEY OR COUNSEL OF ANY OF THE PARTIES, NOR A RELATIVE OR EMPLOYEE OF SUCH ATTORNEY OR COUNSEL.

THIS THE 10TH DAY OF SEPTEMBER, 2012.

NOTARY PUBLIC NUMBER 2012121000222.

Xavier N Blount

XAVIER N. BLOUNT
COURT REPORTER AND NOTARY PUBLIC
CAROLINA COURT REPORTERS, INC.
105 OAKMONT PROFESSIONAL PLAZA
GREENVILLE, NC 27858

Site UXO-14 – Former Indoor Pistol Range Engineering Evaluation/Cost Analysis

MCIEAST - MCB CAMLEJ

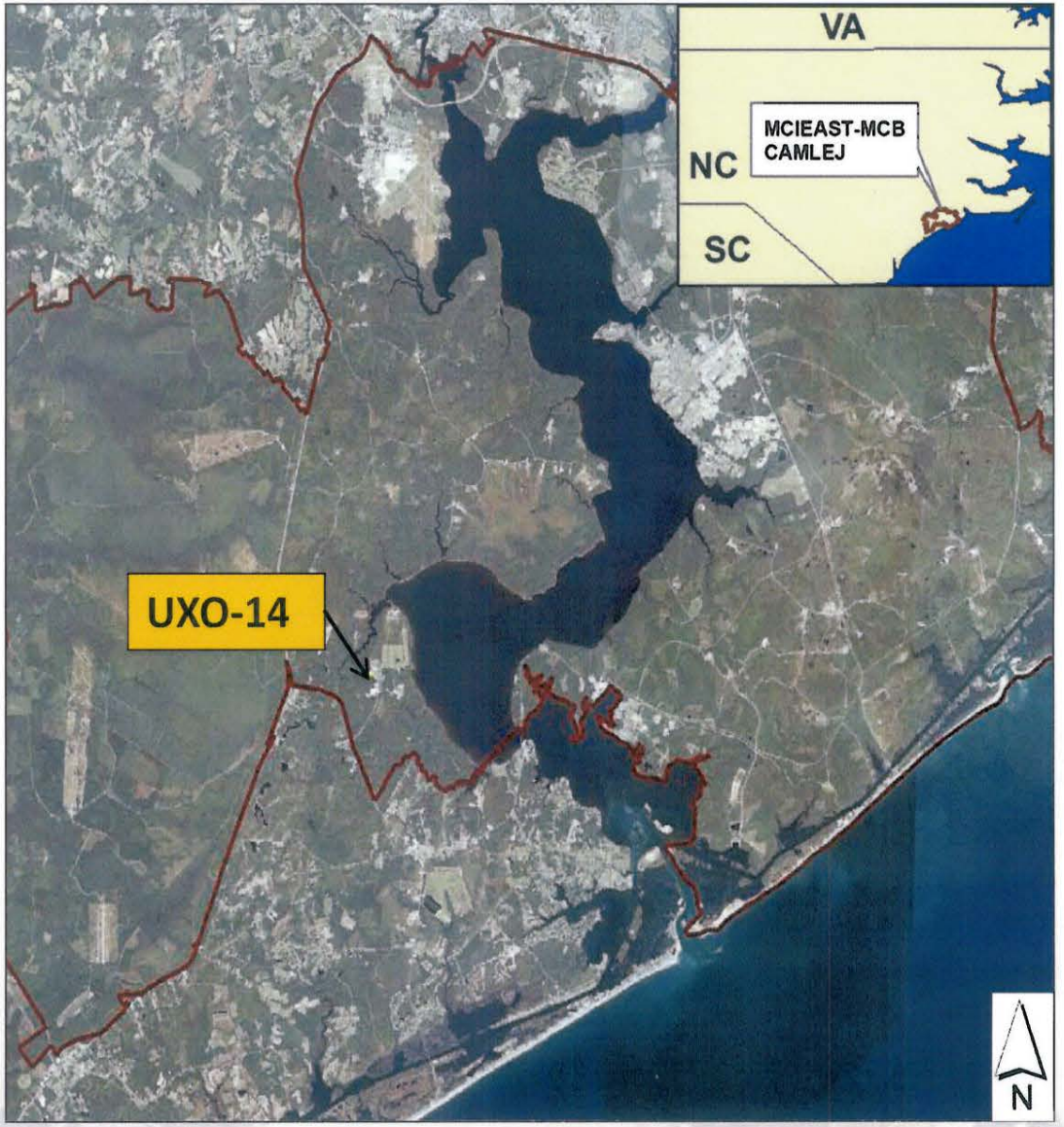
Public Meeting

August 16, 2012

NAVFAC CH2MHILL NCDENR

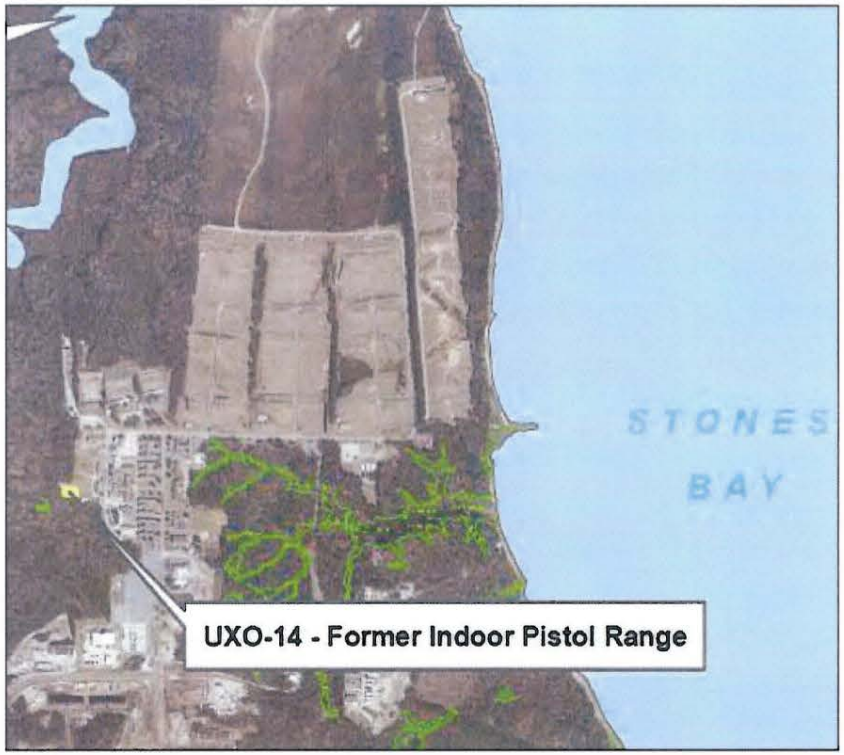
Objectives

- Review site background
- Review removal action objectives and alternatives
  - Present recommended alternative
- Discuss community participation
- Review path forward and schedule



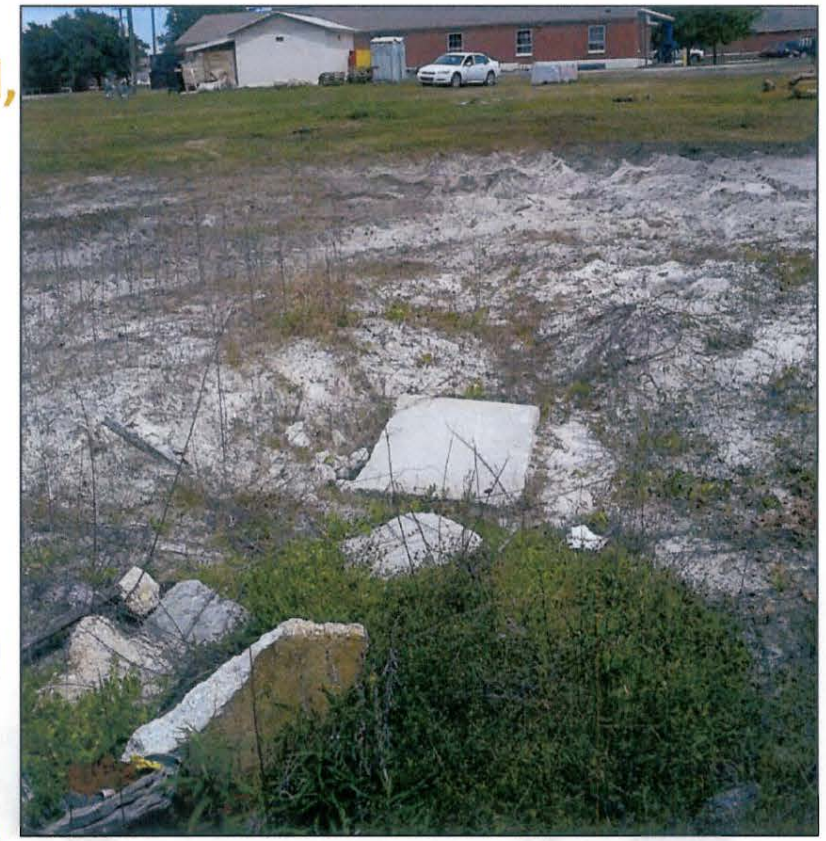
Site Background

- Located in Stones Bay area
- Former Indoor Pistol Range
  - Less than 0.2 acres
  - Used for small arms training from 1950 – 1996
  - Building demolished in 1996
- Investigations conducted 2008 through 2011

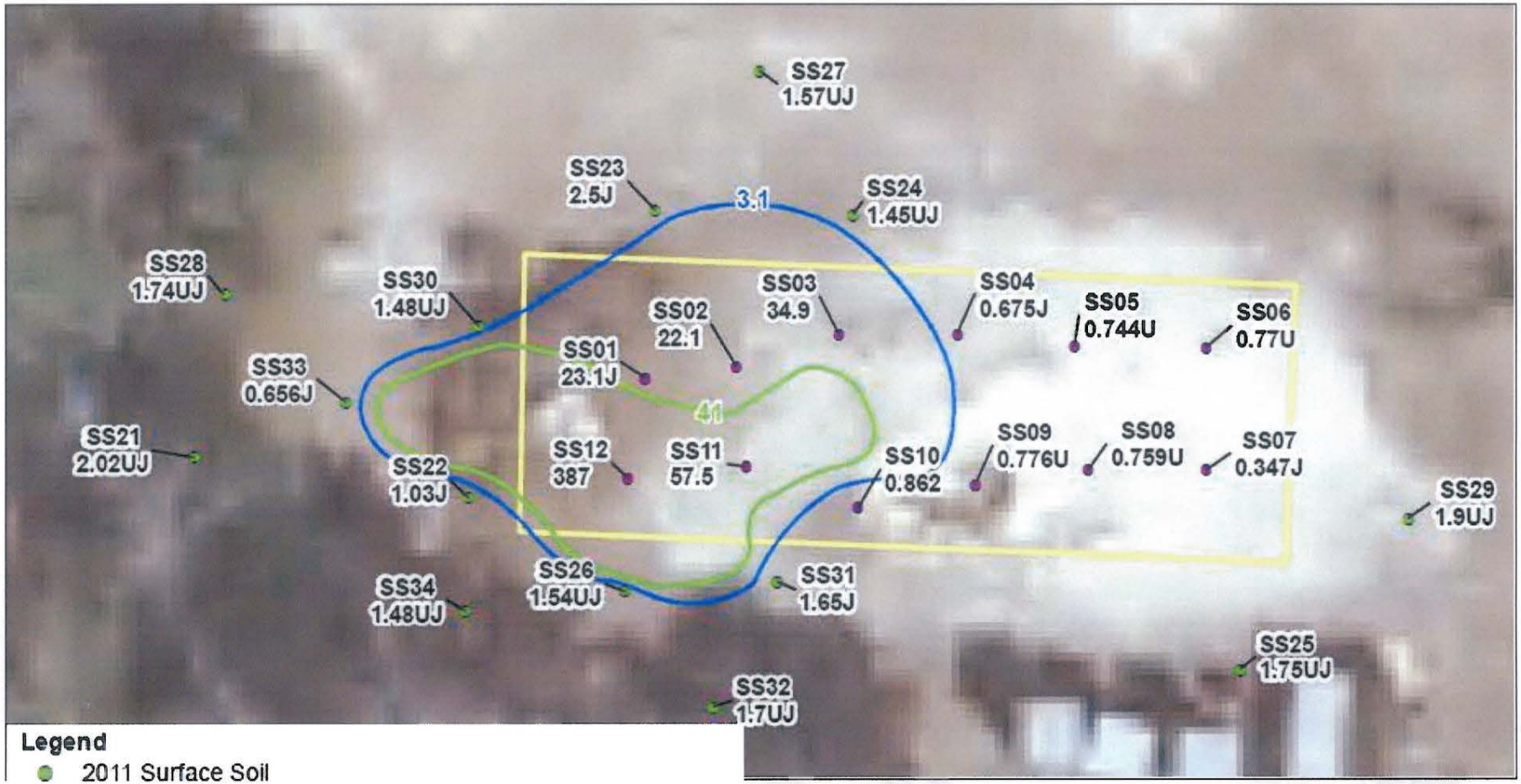


Previous Investigations

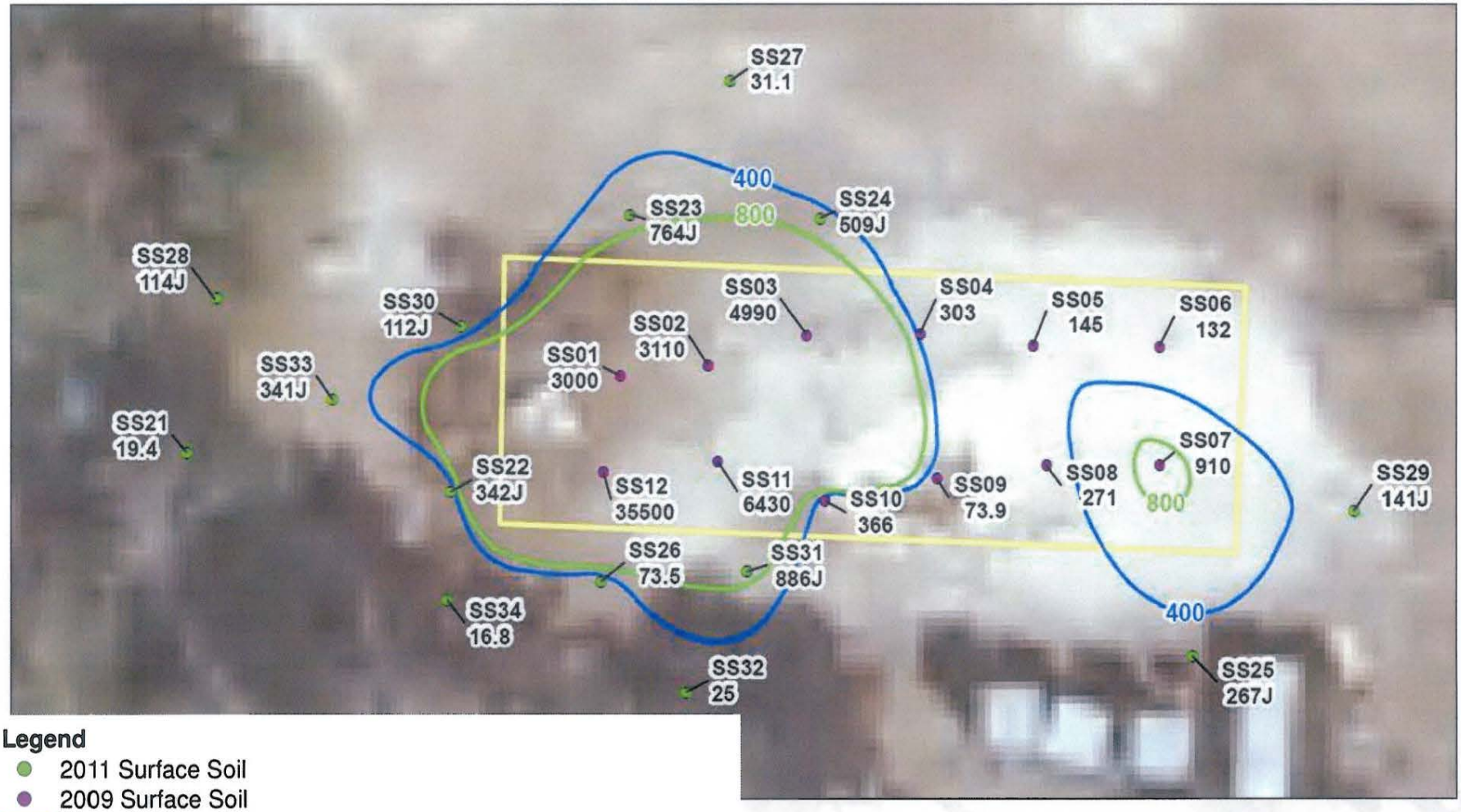
- **Preliminary Assessment/Site Inspection**
  - Conducted groundwater, surface soil, and subsurface soil sampling
  - Potential human health & ecological risks from exposure to soil
    - Antimony, mercury, and lead
  - Recommended additional surface and subsurface soil sampling
- **Expanded Site Investigation**
  - Conducted surface and subsurface soil sampling for metals
  - Potential human health & ecological risks from exposure to surface soil
    - Antimony and lead
  - Recommended mitigation of surface soil risk



Surface Soil Antimony Results



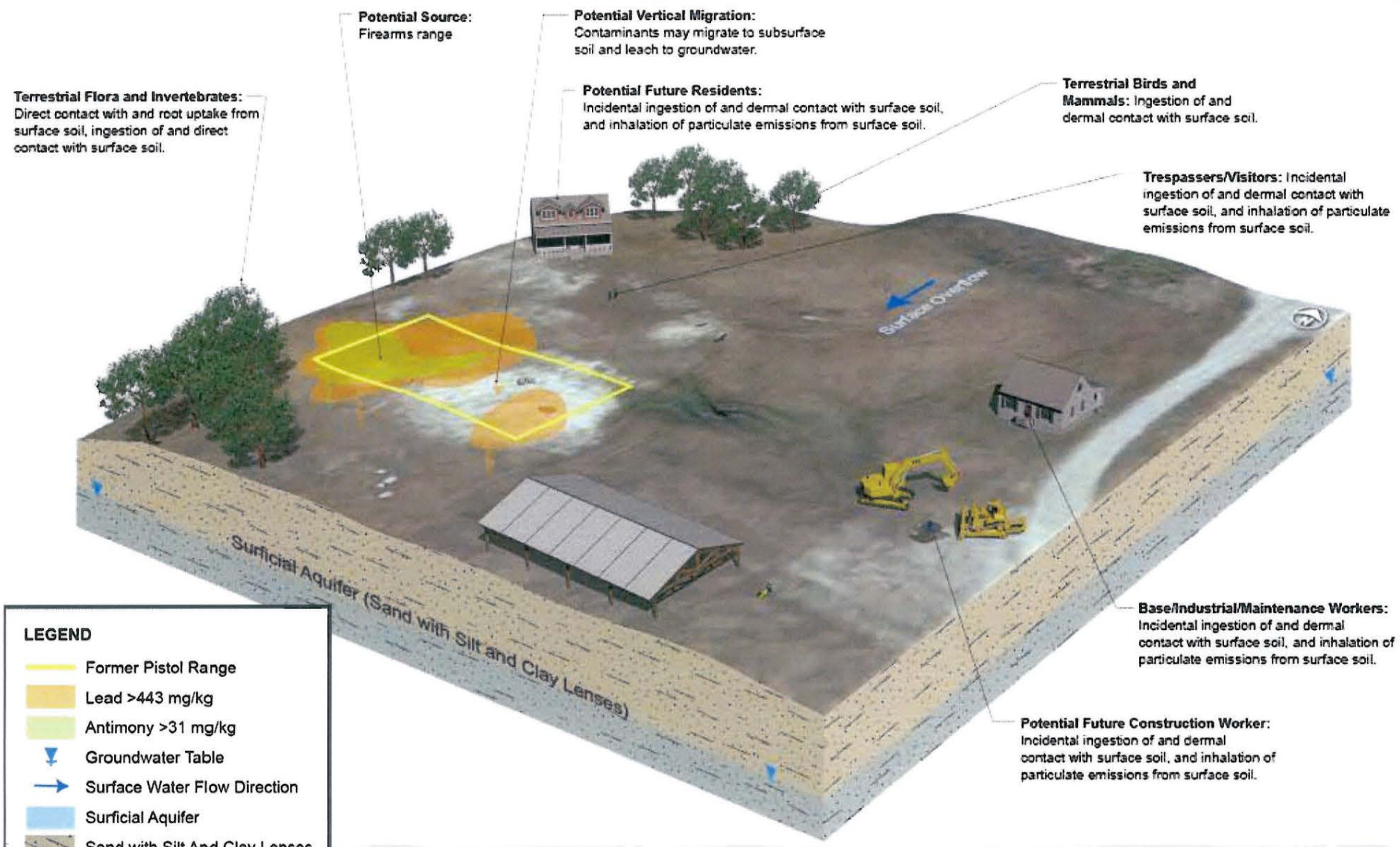
Surface Soil Lead Results



Legend

- 2011 Surface Soil
- 2009 Surface Soil
- USEPA Residential RSL for Lead (400 mg/kg)
- USEPA Industrial RSL for Lead (800 mg/kg)
- Site UXO-14 Boundary (Former Indoor Pistol Range Area)

Conceptual Site Model



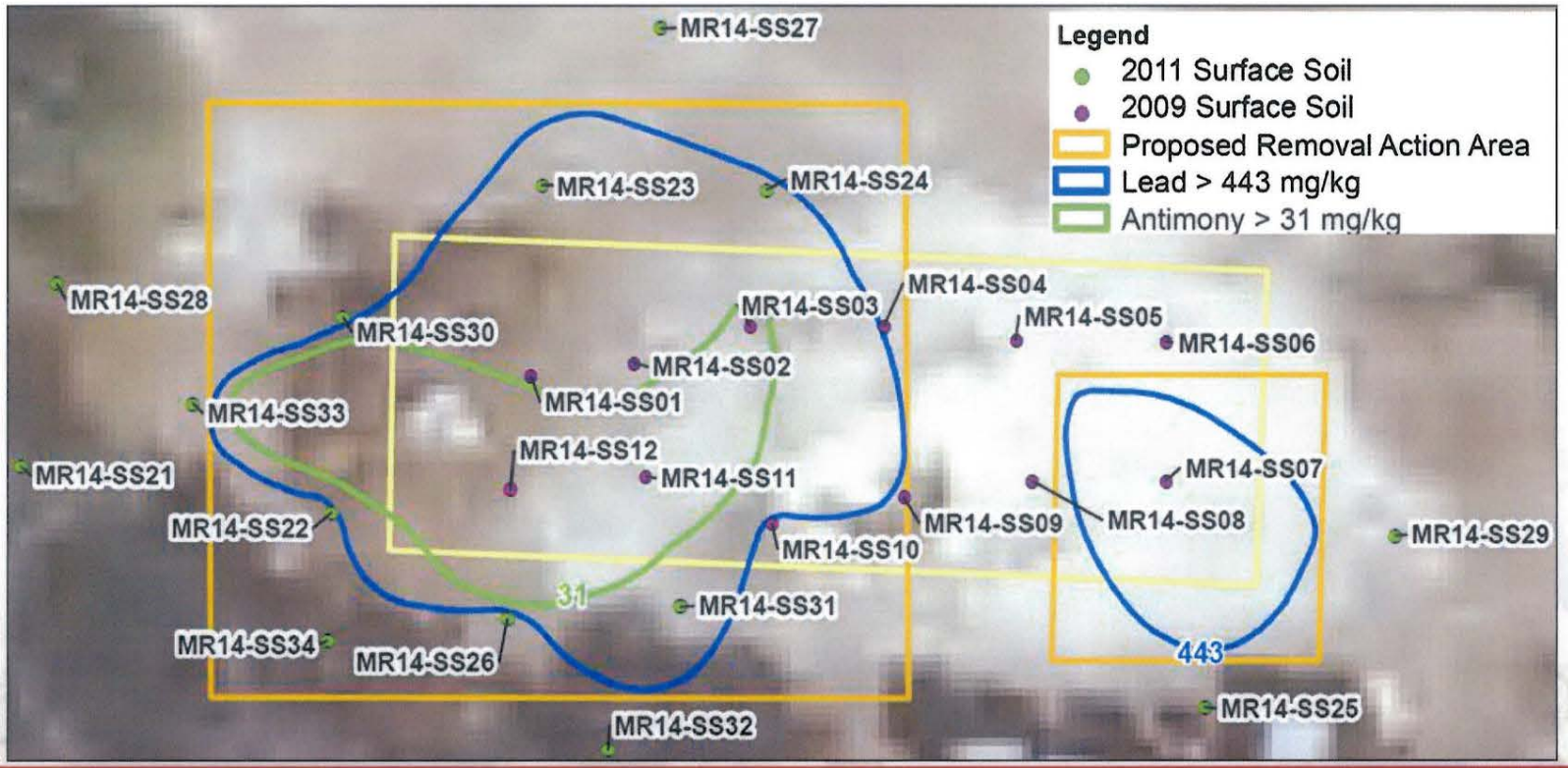
Engineering Evaluation/Cost Analysis (EE/CA)

- **Removal Action Objectives (RAOs):**
  - Prevent exposure to surface soils with antimony and lead concentrations exceeding the cleanup levels.
  - Reduce the potential for antimony and lead to migrate from surface soil to subsurface soil and groundwater.
- **Cleanup Levels:**
  - Based on human health risk-based levels for future residential land use

COC	Cleanup Level
Lead	443 mg/kg
Antimony	31 mg/kg

EE/CA

- **Removal Action Alternatives**
  - **Alternative 1—No Action**
  - **Alternative 2—Excavation and Offsite Disposal**
  - **Alternative 3—In Situ Soil Stabilization with Excavation and Offsite Disposal**



Alternative 2 - Excavation with Offsite Disposal

- **Excavation**
  - Approximately 260 cubic yards estimated for removal
  - Sidewall and base sampling to confirm horizontal and vertical extents meet cleanup levels
- **Offsite disposal**
  - Assumes disposal of hazardous waste based on lead concentrations
- **Backfill and site restoration**

Alternative 3 - In Situ Stabilization with Excavation and Offsite Disposal

- *In Situ* Stabilization
  - Mixing top 1 foot of soil with stabilizing reagent
    - Chemically binds and immobilizes lead and antimony
    - Renders the contaminated soil non-hazardous
- Excavation
  - Approximately 270 cubic yards estimated for removal including stabilizing agent
  - Sidewall and base sampling to confirm horizontal and vertical extents meet cleanup levels
- Offsite disposal
  - Assumes disposal as non-hazardous waste
- Backfill and site restoration

Comparison of Alternatives

Criteria	Alternative 2 Excavation and Offsite Disposal	Alternative 3 In Situ Stabilization with Excavation and Offsite Disposal
Overall Protectiveness	■	■
Complies w/ARARs	■	■
Long-Term Effectiveness	■	■
Reduction of Toxicity, Mobility, Volume through Treatment	N/A	■
Short-Term Effectiveness	▬	▬
Implementability (Technical, Administrative, and Availability of Services and Materials)	■	▬
Cost	$387k	$296k

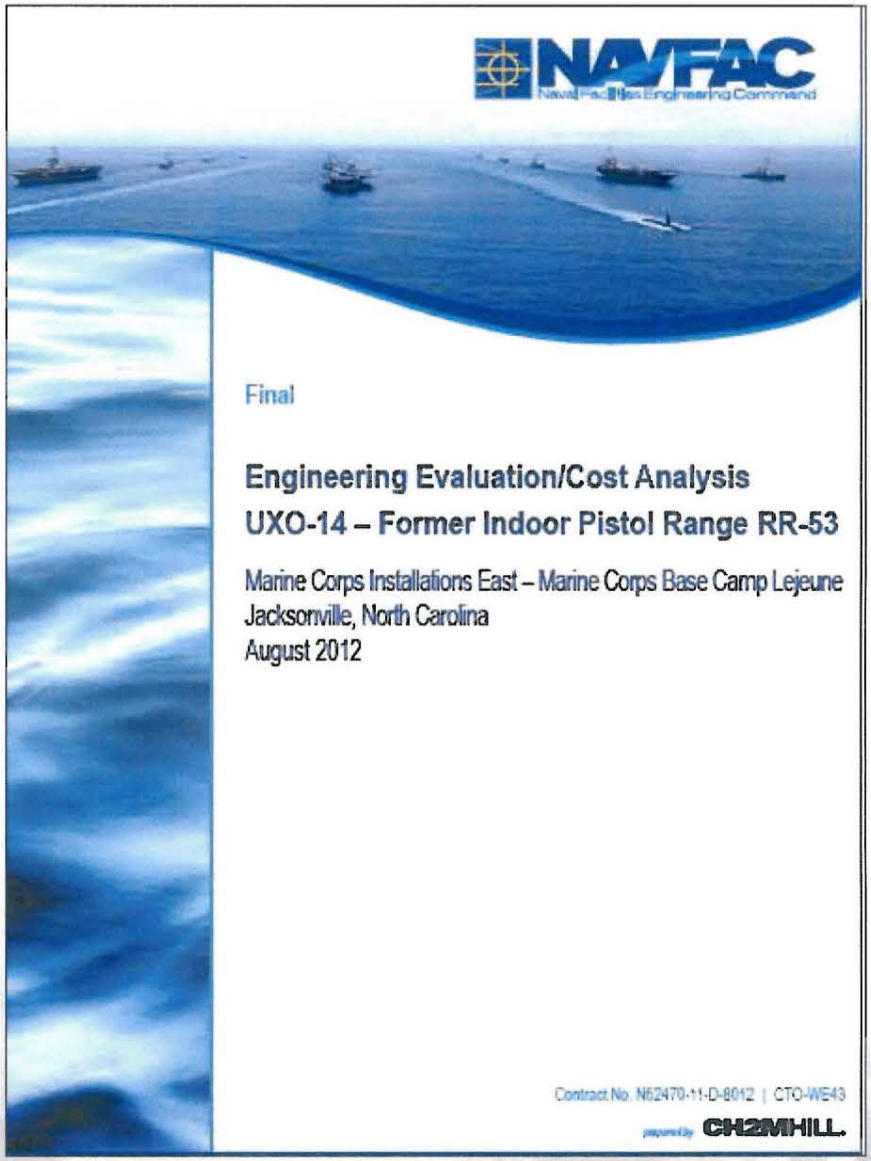
Favorable ■ Moderate ▬ Not Favorable □

Recommended Action

- **Alternative 3 - In Situ Stabilization with Excavation and Offsite Disposal**
  - Protective of human health and the environment
    - Removes source and allows for non-hazardous disposal
  - Effective in the long-term
    - Eliminates future risks at the site
  - Reduces toxicity, mobility, and volume through treatment
  - Effective in the short-term
    - Manageable risks to site workers, community, and the environment
  - Triggers minimal ARARs
    - Disposal of non-hazardous waste
  - Easily implementable
    - Proven and reliable technology
  - More cost effective

Community Participation

- Public input is key in the decision-making process
- Public comment period gives opportunity for input
  - August 16 through September 16, 2012
  - Comments postmarked no later than September 16, 2012
  - Responses to significant comments prepared and included in Administrative Record
- Public meeting
  - August 16, 2012



Available Information

- EE/CA and previous investigations available in the Administrative Record: http://go.usa.gov/jZi
- Internet access to Administrative Record available at:

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Path Forward and Schedule

- Public Comment Period: August 16 – September 16, 2012
- Public Meeting: August 16, 2012
- Final Action Memo: November 2012
- Removal Action: Winter/Spring 2013

This Concludes the Public Meeting Presentation

Questions or Comments?

Thank you for attending!